



Preparing for Career Success in Health Science



# Career Clusters Prepare All Students for College, Technical Training and Careers

areer Clusters prepare learners of all ages for the information age as schools, colleges and employers strive for higher achievement in science, math and communication. One key to improving learner achievement is providing learners with relevant contexts for studying and learning. Career Clusters offer these contexts by linking school-based learning with the knowledge and skills required for continued success.

### The Concept of Career Clusters

Career Clusters identify the knowledge and skills learners need as they follow a pathway toward their career goals. The knowledge and skills identified form a strong basis for learner success whether the learners are in high school, college, technical training, apprenticeship programs, or in the workplace.

## How to Pursue Education and Training in Health Science

There are thousands of challenging educational and training opportunities within the high-skilled world of Health Science. Learners need a solid background in math, science, communications, and technical skills. Education and training can be obtained in high schools,



technical colleges, two-year community colleges, fouryear colleges, apprenticeship programs, and career technical schools/institutes.

Along the way, career guidance professionals assist learners in assessing their educational goals, interests, abilities and skills to facilitate a good match

to the cluster's many pathway options. Learners participate in relevant educational opportunities framed in the context of the cluster. They gain knowledge and skills through coordinated workplace learning experiences such as site visits, job shadowing and internships. If they choose, they may achieve valuable skill certifications that lead to employment. Colleges and universities offer advanced degrees and industry certifications that prepare learners for professional and technical careers.



# Career Pathways at a Glance

he Health Sciences Career Cluster
is divided into five pathways. Pathways are
grouped by common knowledge and skills
required for occupations in these career
fields. Each pathway provides instruction as a
basis for success in an array of careers and educational pursuits.

involve working directly with people , while others involve research into diseases or collecting and formatting data and information. Work locations are varied and may be in hospitals, medical or dental offices or laboratories, cruise ships, medivac units, sports arenas, space centers, or within the community.

# CAREER SPECIALTIES CAREER

# The Five Pathways

- ■Therapeutic Services
- Diagnostic Services
- Health Informatics
- Support Services
- Biotechnology Research and Development

# What Is the Health Sciences Career Cluster?

This Health Science Career Cluster orients students to careers that promote health, wellness, and diagnosis as well as treat injuries and diseases. Some of the careers

## **Employment Outlook**

Health care is the largest and fastest-growing industry in the United States. The health care industry employs over 10 million workers in more than 200 careers. The current and projected health care workforce shortage is creating a health care crisis across the nation. Health care employment growth between 2004-2014 is projected to be 19 percent. The 2006-07 edition of the Occupational Outlook *Handbook* predicts three of the top four fastest-growing occupations will be in the Health Science industry. Home health aides are predicted to

grow by 56 percent, medical assistants will grow by 52 percent, and physician assistants will grow by 49 percent. The explosion of technology in health care and an unprecedented aging population contribute to the national health care workforce shortage.



# Therapeutic Services

#### **Overview**

Careers in the
Therapeutic Services
pathway are focused
primarily on
changing the
health status of the
patient over
time.



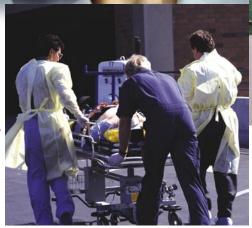
Many Therapeutic careers include levels of therapist, technician and assistant.

Some careers, like Nurse Practitioner or Physical Therapist, require a master's degree. Other careers, like Physician or Dentist, require a doctoral

## **Employment Outlook**

Based on an aging population, increased use of technology, and a retiring workforce, the demand for health care workers will remain high through 2020. As the role of Therapeutic careers changes, professionals in this pathway will find increased opportunities to

Health professionals in this pathway work directly with patients; they may provide care, treatment, counseling and health education information.



degree. Most Therapeutic careers require certification, registration or licensure by a National Professional Organization or by the state in which these health professionals practice.

work independently.

Additionally, an increasing number of career opportunities are becoming available outside of the traditional hospital setting.

7

## Sample Occupations

- Athletic Trainer
- Certified Nurse Assistant
- Dental Hygienist
- Paramedic
- Pharmacist

- Physical Therapist
- Physician
- Registered Nurse
- Respiratory Therapist
- Surgical Technician

# Diagnostic Services

## **Overview**

Careers in the Diagnostic Services pathway use tests and evaluations that aid in the detection, diagnosis and treatment of diseases, injuries or other physical conditions.

## Credentials

Most Diagnostic careers require an associate or bachelor of science degree. Most states require certification, registration or licensure by a National Professional Organization. Many Diagnostic careers require a specialty certification in addition to an existing credential.



## Sample Occupations

- Geneticist
- Medical Lab Technologist
- Nuclear Medicine Technologist
- Pathologist
- Phlebotomist
- Radiologic Technologist



# Health Informatics

#### **Overview**

Careers in the Health Informatics pathway include many different levels of health care related employment. This pathway includes health care administrators who manage health care agencies as well as those individuals who are responsible for managing all of the patient data and information, financial

information, and computer applications related to health care processes and procedures.

Sample Occupations

- Admitting Clerk
- Data Analyst
- Health Care Administrator
- Health Information Coder
- Medical Biller
- Medical Information Technologist
- Medical Librarian
- Reimbursement Specialist
- Transcriptionist

#### Credentials

Some Health Informatics careers require an associate or bachelor's degree in computer science; however, many of these careers simply require on-the-job training and/or certification.

## **Employment Outlook**

Based on an increasing reliance on electronic information, the demand for these workers will remain high through 2020. Many career opportunities are available throughout the health care system.





# **Support Services**

#### **Overview**

Careers in the **Support Services** pathway provide a therapeutic environment for the delivery of health care. Support Services offers a full range of career opportunities from entry level to management, including technical and professional careers.

## Sample Occupations

- Biomedical/Clinical Engineer
- Central Services Technician
- Dietary Technician
- Environmental ServicesTechnician
- Hospital Maintenance Engineer
- Materials Management Technician

Most offer extensive on-thejob training, and there is ample opportunity to gain job-related experience to advance in a Support Services career.

## **Employment Outlook**

Job growth is projected for careers in this pathway as the health care industry expands. The demand for



## Credentials

Support
Services
careers have
workers at
varying levels of
education. Some

may require an associate or bachelor of science degree. entry-level workers, qualified managers and supervisors will provide numerous job opportunities.

# Biotechnology Research and Development

#### **Overview**

Careers in the Biotechnology Research and Develop-

ment pathway involve bioscience research and development as it applies to human health. These scientists may study diseases to discover new treatments or invent medical devices used to directly assist patients or to improve the accuracy of diagnostic tests.



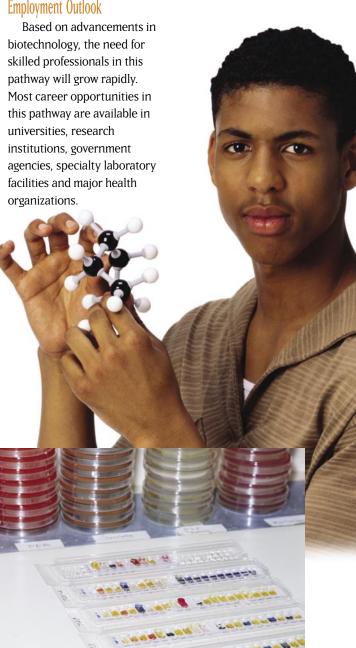
# Credentials

Most entry-level careers in Biotechnology Research and Development require a master's degree. Few certifications or licensures are required for these careers at this time.

## Sample Occupations

- Bioinformatics Specialist
- Biostatistician
- Microbiologist
- Molecular Biologist
- Pharmacist
- Research Assistant

## **Employment Outlook**



# CAREER CLUSTERS—FOCUSING EDUCATION ON THE FUTURE



# The 16 Career Clusters

Agriculture, Food & Natural Resources Architecture & Construction Arts, A/V Technology & Communications Business, Management & Administration **Education & Training** Finance Government & Public Administration Health Science Hospitality & Tourism Human Services Information Technology Law, Public Safety, Corrections & Security Manufacturing Marketing, Sales & Service Science, Technology, Engineering & Mathematics Transportation, Distribution & Logistics



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National Association of State Directors of Career Technical Education Consortium

NCTEF

January 2006

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